IN THE CLAIMS

Claims 1-14 (Canceled)

15. (Previously Presented) A power amplifier system comprising:

a Schottky barrier gate metal semiconductor field effect transistor ("MESFET") having a source, a drain and a gate electrode, wherein the gate electrode is formed on a semiconductor region so as to form a Schottky diode between the gate electrode and the semiconductor region, and a gate current flows as a forward direction current of the Schottky diode by increasing a gate bias voltage to be supplied to the gate electrode, and wherein materials of the gate electrode and the semiconductor region are arranged so that a gate bias voltage which is to be supplied to the gate electrode and which is defined by a gate current value of 100 microamperes (μA) per gate electrode width of 100 micrometers (μm) is greater than or equal in value to 0.65 volts (V); and

a bias circuit arranged to receive a unipolar power supply, and to provide the gate bias voltage to be supplied to the gate electrode,

wherein the MESFET amplifies an input signal superposed with the gate bias voltage provided from the bias circuit.

16. (Previously Presented) The power amplifier system as recited in claim 15, wherein said MESFET is a MESFET of shallow depression type or enhancement type.

17. (Previously Presented) The power amplifier system as recited in claim 15, wherein said MESFET has a channel region comprising a compound semiconductive material of direct transition type.

18. (Previously Presented) The power amplifier system as recited in claim 15, wherein the bias circuit includes a gate bias circuit for generating the gate bias voltage and a ripple filtering capacitor coupled to the gate bias circuit.

19. (Previously Presented) The power amplifier system as recited in claim 18, wherein said ripple filtering capacitor is provided outside of a semiconductor substrate having said MESFET formed thereon.

20. (Previously Presented) The power amplifier system as recited in claim 15, wherein an alloy of said gate electrode and the semiconductor region is formed between the gate electrode and the semiconductor region, and wherein the Schottky diode is formed between the alloy and the semiconductor region.

21. (Previously Presented) The power amplifier system as recited in claim 20, wherein the material of the gate electrode is greater in work function than tungsten silicides.

22. (Previously Presented) The power amplifier system as recited in claim 21, wherein the material of the gate electrode includes one of platinum (Pt) and palladium (Pd).

23. (Previously Presented) The power amplifier system as recited in claim 15, wherein said MESFET and a passive element which is used in the power amplifier system are formed on different respective semiconductor substrates.

24. (Previously Presented) The power amplifier system as recited in claim 15, wherein said MESFET and a passive element which is used in the power amplifier system are formed on a single semiconductor substrate.

25. (Previously Presented) The power amplifier system as recited in claim 15, wherein said MESFET, a passive element which is used in the power amplifier system and an output matching circuitry which is used in the power amplifier system are formed on a single semiconductor substrate.

26. (Previously Presented) A power amplifier system comprising:

a Schottky barrier gate metal semiconductor field effect transistor (MESFET) having a source, a drain and a gate electrode, wherein the gate electrode is formed on a semiconductor region so as to form a Schottky diode between the gate electrode and the semiconductor region, and a gate current flows as a forward direction current of the Schottky diode by increasing a voltage to be supplied to the gate electrode, and wherein materials of the gate electrode and the semiconductor region are arranged so that the voltage which is to be supplied to the gate electrode and which is defined by a gate current value of 100 microamperes (μA) per gate electrode width of 100 micrometers (μm) is greater than or equal in value to 0.65 volts (V); and

a bias circuit arranged to receive a unipolar power supply, and to provide a gate bias voltage to be supplied to the gate electrode,

wherein the MESFET amplifies an input signal superposed with the gate bias voltage.

27. (Previously Presented) The power amplifier system as recited in claim 26, wherein said MESFET has a channel region comprising a compound semiconductive material of direct transition type.

28. (Previously Presented) The power amplifier system as recited in claim 26, wherein the bias circuit includes a gate bias circuit and a ripple filtering capacitor coupled to the gate bias circuit.

29. (Previously Presented) The power amplifier system as recited in claim 26, wherein an alloy of said gate electrode and the semiconductor region is formed between the gate electrode and the semiconductor region, and wherein the Schottky diode is formed between the alloy and the semiconductor region.

30. (Previously Presented) The power amplifier system as recited in claim 29, wherein the material of the gate electrode is greater in work function than tungsten silicides.

31. (Previously Presented) The power amplifier system as recited in claim 30, wherein the material of the gate electrode includes one of platinum (Pt) and palladium (Pd).

32. (Previously Presented) The power amplifier system as recited in claim 26, wherein said MESFET and a passive element which is used in the power amplifier system are formed on different respective semiconductor substrates.

33. (Previously Presented) The power amplifier system as recited in claim 26, wherein said MESFET and a passive element which is used in the power amplifier system are formed on a single semiconductor substrate.

34. (Previously Presented) The power amplifier system as recited in claim 26, wherein said MESFET, a passive element which is used in the power amplifier system and an output matching circuitry which is used in the power amplifier system are formed on a single semiconductor substrate.